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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,175	12/31/2003	Lukas Trosman	24GA127098	5553
33727	7590	10/01/2008	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 8910 RESTON, VA 20195			PALABRICA, RICARDO J	
ART UNIT	PAPER NUMBER			
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/748,175	Applicant(s) TROSMAN ET AL.
	Examiner Rick Palabrida	Art Unit 3663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 23 September 2008.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 21,23,26 and 28-32 is/are pending in the application.
- 4a) Of the above claim(s) 31 and 32 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 21,23,26 and 28-30 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

1. Applicant's 9/23/08 Reply, which traversed the rejection of claims in the 6/23/08 Office action, is acknowledged. Also, in view of applicant's argument, said Office action is considered non-final instead of final.

Response to Arguments

2. Applicant traversed the rejection of claims in the 6/23/08 Office action on the grounds that: a) "the length ranges of claim 22 and the amendments adding length ranges to claim 29 were not considered on appeal at all, alone or in combination"; b) "[b]ecause the recited length ranges in combination are not found in any of the applied references, it cannot be a matter of optimization to find the recited ranges within prior art conditions"; c) "[t]he Examiner further replies that the specification teaches that the recited group lengths in combination are only a matter of optimization; nothing in that section [*paragraph 0010 the Specification*] remotely suggests that Applicants are characterizing the work of another; [t]hus the specification does not and cannot apply as prior art teaching or suggesting the recited combination of length ranges or optimization to reach the same, nor has the Examiner provided any external reference doing so"; d) "Orii teaches away from the recited ranges in combination, and none of the secondary references cure this teaching away."

As to argument a), claims 21-26 and 28-32 were reviewed on appeal (see 3/31/08 Decision on Appeal, page 3). Since claim 22 is an integral part of the group of

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group of reviewed claims, then said claim was considered on appeal. Also, since the Board affirmed the previous examiner's rejection of claims 21-26 and 28-32, and since claim 22 is part of the group of claims whose rejection was affirmed by the Board, then the rejection of the claim 22 is valid. As to claim 29, the range of lengths recited therein is the same as that recited in claim 24 that is, again, an integral part of the group of claims whose rejections were affirmed by the Board. As to the combination of lengths, this is a matter of optimization as stated in the 6/23/08 Office action (see further discussion on this issue below).

As to argument b), if the recited length ranges in the combination are found in the applied references then there would be NO NEED to apply a 35 U.S.C. 103(a) rejection based on optimization because the claims can be rejected under 35 U.S.C. 102.

As to argument c):

First, the examiner did not apply paragraph 0010 in the Specification as admitted prior art. Rather, the admission by applicant in said paragraph was used by the examiner to reinforce the previous examiner's position that the number and relative length of part length rods is a matter of optimization, which position was affirmed by the Board, as discussed in section 2 of the 6/23/08 Office action. Thus, applicant is mischaracterizing the basis of the examiner's rejection of claims being a matter of optimization.

Second, as to the so-called external reference that applicant alleges the examiner has not provided, either one or both of applied art, Johansson et al. and Ueda

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et al., provides the teaching (see section 3 of the 6/23/08 Office action). Note further the following statement in the previous examiner's Examiner Answer:

"The number of part-length rods and the degree (i.e., fraction or fractional range) (claims 22-26) to which they are part-length is therefore a matter of optimization within prior art conditions or through routine experimentation (see MPEP 2144.05.II.A). The concept of including part-length rods in a fuel assembly in order to modulate shutdown (as defined above and discussed in Johansson et al.) is well-known (also see Ueda et al., col. 12, line 65), and an optimization of a presently disclosed device is not considered patentably distinct from the original device." See page 5 of the Examiner's Answer.

Again, the Board affirmed the previous examiner's position on optimization.

Third, if the length of the short-length fuel rods is a matter of optimization and if the length of the intermediate-length rods is also a matter of optimization, then the combination of the lengths of the two types of rods is also a matter of optimization.

MPEP 2144.05.II (Optimization) requires that a particular parameter be recognized as a result-effective variable, i.e., a variable which achieves a recognized result. The length and number of part-length rods (i.e., short-length and intermediate-length rods) are clearly result effective variables, which achieve varying degrees of benefits disclosed by Johansson et al., as they are varied. Different lengths and combinations of different lengths for these fuel rods will affect fuel utilization, shutdown margin and coolant behavior differently, but largely predictably.

As to argument d), in section 6 of the 2/13/06 Office action and in section 9 of the Examiner's Answer, the previous examiner has shown that Orii et al. disclose applicant's claim limitations except for the lengths of the part-length rods (i.e., the short-length and intermediate length rods). The Board affirmed the previous examiner's rejection of the claims, including the limitations pertaining to the short-length and intermediate rods, on the basis that these parameters are matters of optimization. Orii et

al. is the primary reference that the Board reviewed, along with the secondary references Ueda et al. and Johansson et al. Since the rejection of claims to the short length rods and the intermediate-length rods based on the Orii et al.- Ueda et al.- Johansson et al. combination has been found to be valid by the Board, this means that the Board did not find any "teaching away" by Orii, as alleged by the applicant, or, even if it exists (for the sake of argument alone) that it is relevant or sufficient to make the rejection of the claims based on the combination to be invalid (which is not the case). See also the above discussion on the optimization of the combination of short-length and intermediate length rods.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 21, 23, 26 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orii et al., in view of Ueda et al. and Johansson et al.

The reasons are the same as those stated in section 3 of the 6/23/08 Office action, as further clarified in section 2 above, which reasons are herein incorporated.

Conclusion

4 **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick Palabrida whose telephone number is 571-272-6880. The examiner can normally be reached on 6:00-4:30, Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

September 26, 2008

/Rick Palabrica/
Primary Examiner, Art Unit 3663